AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application;

--1. (Currently Amended) A radio communication system comprising a plurality of adjacent radio networks having overlapping service areas, each radio network including a radio communication device having a connection list for registering a connecting communication device to which connection is to can be performed[[,]] and a non-connection list for registering a non-connecting communication device to which connection [[is]] can not [[to]] be performed; wherein

said radio communication device grasps [[the]] an existence of a surrounding radio communication device through using a predetermined method; and

when a new radio communication device is detected, an authentication verification is performed between said new radio communication device and, [[if]] when said authentication is successful, said new radio communication device is registered in said connection list; and [[if]] when said authentication fails, said new radio communication device is registered in said non-connection list.

--2. (Currently Amended) A radio communication device for operation in a radio communication environment in which a plurality of adjacent radio networks have overlapping service

3

areas, said radio communication device comprising:

communication means for communicating radio data;

control means for controlling [[the]] radio data communication of said communication means;

notification means for notifying ~~one's own~~ an existence within a service area of said communication means;

terminal detection means for detecting an existence of another radio communication device within said service area of said communication means; and

connection management means for managing connection/non-connection of said other radio communication device detected within said service area.

--3. (Currently Amended) The radio communication device according to Claim 2, wherein, under said radio communication environment, there is provided an adjacent ad-hoc radio network to which each radio communication device performs direct asynchronous ad-hoc communication without providing a communication device as a control station.

--4. (Currently Amended) The radio communication device according to Claim 2, wherein:

said notification means notifies the existence of the radio communication device by transmitting a beacon signal ~~under~~ with a predetermined frame period via said ~~transmission~~

4

communication means; and

said terminal detection means ~~grasps~~ detects the existence of another radio communication device by receiving said beacon signal from said ~~transmission~~ communication means.

--5. (Currently Amended) The radio communication device according to Claim 2, wherein said connection management means performs authentication verification of a radio communication device detected by said terminal detecting means and registers said radio communication device in said connection list [[if]] authentication is successful, and registers said radio communication device in said non-connection list [[if]] when authentication ~~fails~~ is unsuccessful.

--6. (Original) The radio communication device according to Claim 2, wherein said connection management means performs authentication verification of an apparatus among radio communication devices detected by said terminal detecting means which has no registration in both said connection list and said non-connection list, but does not perform authentication verification of an apparatus already registered in said non-connection list.

--7. (Currently Amended) The radio communication device according to Claim 2, wherein said connection management means

5

transmits an authentication request command ~~against~~ <u>to</u> a radio communication device for registration in said connection list[[,]] and registers said radio communication device in said connection list<u>;</u> and transmits an authentication completion command when receiving and authorizing authentication of an authentication request command from another radio communication device.

--8. (Currently Amended) The radio communication device according to Claim 5, wherein said connection management means determines <u>an</u> existence of <u>an</u> authorization for authentication after performing authentication of a user, when receiving an authentication request command from another radio communication device.

--9. (Currently Amended) The radio communication device according to Claim 5, wherein said connection management means erases from said connection list a radio communication device whose existence is not detected by said terminal detecting means during a period of time exceeding a <u>predetermined</u> time limit.

--10. (Currently Amended) The radio communication device according to Claim 5, wherein said connection management means erases from said non-connection list a radio communication

device whose existence is not detected by said terminal detecting means during a period of time exceeding a predetermined time limit.

--11. (Currently Amended) The radio communication device according to Claim 4, wherein said control means sets a reception domain of predetermined duration within said frame period after said beacon signal, and [[the]] a remaining portion of said frame period is set as an unused domain.

--12. (Currently Amended) A radio communication method for radio communication in a radio communication environment in which a plurality of adjacent radio networks have overlapping service areas, said radio communication method comprising:

a notification step of notifying an existence of a radio communication ~~device's own existence~~ device within its service area;

a terminal detection step of detecting existence of another radio communication device within said service area; and

a connection management step of managing connection/non-connection of said other radio communication device detected within said service area.

--13. (Currently Amended) The radio communication method

7

according to Claim 12, wherein:

said notification step notifies existence of the radio communication device by transmitting a beacon signal ~~under~~ having a predetermined frame period; and

said terminal detection step ~~grasps~~ detects an existence of another radio communication device by receiving said beacon signal.

--14. (Currently Amended) The radio communication method according to Claim 12, wherein said connection management step performs authentication verification of a radio communication device detected in said terminal detecting step and registers said radio communication device in a connection list [[if]] when authentication is successful, and registers said radio communication device in a non-connection list [[if]] when authentication ~~fails~~ is unsuccessful.

--15. (Original) The radio communication method according to Claim 14, wherein said connection management step performs authentication verification of an apparatus among radio communication devices detected in said terminal detecting step which has no registration in both said connection list and said non-connection list, but does not perform authentication verification of an apparatus already registered in said non-connection list.

8

--16. (Currently Amended) The radio communication method according to Claim 14, wherein said connection management step further comprises the steps of:

transmitting an authentication request command ~~against~~ to a radio communication device for registration in said connection list; and

registers said radio communication device in said connection list and transmits an authentication completion command when receiving and authorizing authentication of an authentication request command from another radio communication device.

--17. (Original) The radio communication method according to Claim 14, wherein said connection management step determines existence of authorization for authentication after performing authentication of a user, when receiving an authentication request command from another radio communication device.

--18. (Currently Amended) The radio communication method according to Claim 14, wherein said connection management step erases from said connection list a radio communication device whose existence is not detected in said terminal detecting step during a period of time exceeding a <u>predetermined</u> time limit.

9

--19. (Currently Amended) The radio communication method according to Claim 14, wherein said connection management step erases from said non-connection list a radio communication device whose existence is not detected in said terminal detecting step during a period of time exceeding a predetermined time limit.

--20. (Currently Amended) A computer-readable program for executing by computer system a radio communication process of radio communication in a radio communication environment in which a plurality of adjacent radio networks have overlapping service areas, said program comprising:

a notification step of notifying an existence of a radio communication device's own existence device within its service area;

a terminal detection step of detecting existence of another radio communication device within said service area; and

a connection management step of managing connection/non-connection of said other radio communication device detected within said service area.

10